AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An ultrasonic probe to be used when connected to an external apparatus main body, said probe comprising:

a transducer array having a first number of ultrasonic transducers arranged in a two-dimensional matrix form, said first number of ultrasonic transducers including ultrasonic transducers in an original pattern that are previously determined to be working and ultrasonic transducers outside of said original pattern;

connecting means for connecting a second number of ultrasonic transducers selected from among said first number of ultrasonic transducers to said external apparatus main body, said second number being less than said first number and said second number of ultrasonic transducers including (i) ultrasonic transducers in said original pattern except for at least one defective ultrasonic transducer and (ii) at least one additional ultrasonic transducer outside of said original pattern in place of said at least one defective ultrasonic transducer; and

identification information holding means for holding identification information on said ultrasonic probe, said identification information being associated with arrangement information and/or characteristic information on said selected second number of ultrasonic transducers within said transducer array.

2. (original): An ultrasonic probe according to claim 1, wherein said connecting means includes wiring and electrodes for supplying the identification information on said ultrasonic probe held

by said identification information holding means to said external apparatus main body.

3. (previously presented): An ultrasonic probe to be used when connected to an external apparatus main body, said probe comprising:

a transducer array having a first number of ultrasonic transducers arranged in a two-dimensional matrix form, said first number of ultrasonic transducers including ultrasonic

transducers in an original pattern that are previously determined to be working and ultrasonic transducers outside of said original pattern; and

a connector, having plural electrodes, for connecting a second number of ultrasonic transducers selected from among said first number of ultrasonic transducers to said external apparatus main body, said second number being less than said first number and said second number of ultrasonic transducers including (i) ultrasonic transducers in said original pattern except for at least one defective ultrasonic transducer and (ii) at least one additional ultrasonic transducer outside of said original pattern in place of said at least one defective ultrasonic transducer, wherein at least two kinds of connecting relationships between said selected ultrasonic transducers and said plural electrodes are set up in regard to plural ultrasonic probes.

4. (currently amended): An ultrasonic transmitting and receiving apparatus to be used when connected to an ultrasonic probe including a transducer array having a first number of ultrasonic transducers arranged in a two-dimensional matrix form, said first number of ultrasonic transducers including ultrasonic transducers in an original pattern that are previously determined to be working and ultrasonic transducers outside of said original pattern, connecting means for connecting a second number of ultrasonic transducers selected from among said first number of ultrasonic transducers to an ultrasonic transmitting and receiving apparatus main body, said second number being less than said first number and said second number of ultrasonic transducers including (i) ultrasonic transducers in said original pattern except for at least one defective ultrasonic ~~transducers~~ transducer and (ii) at least one additional ultrasonic ~~transducers~~ transducer outside of said original pattern in place of said at least one defective ultrasonic transducer, and identification information holding means for holding identification information, said apparatus comprising:

plural transmitting circuits for respectively generating plural driving signals to be supplied to said ultrasonic probe so as to transmit an ultrasonic beam;

plural receiving circuits for respectively processing plural detection signals outputted from said ultrasonic probe which has received an ultrasonic echo; and

control means for controlling delay amounts of the plural driving signals in said plural transmitting circuits and/or delay amounts of the plural detection signals in said plural receiving

circuits in correspondence with the ultrasonic probe identified on the basis of the identification information such that said at least one additional ultrasonic transducer works in place of said at least one defective ultrasonic transducer.

5. (previously presented): An ultrasonic transmitting and receiving apparatus according to claim 4, wherein said control means calculates delay amounts on the basis of arrangement information and/or characteristic information on said selected second number of ultrasonic transducers with regard to plural ultrasonic probes in advance, and controls recording means to record delay amount tables in correspondence with the identification information on the respective ultrasonic probes.

6. (original): An ultrasonic transmitting and receiving apparatus according to claim 5, wherein said control means controls said recording means to read out a delay amount table corresponding to the identification information supplied by said connecting means.

7. (previously presented): An ultrasonic transmitting and receiving apparatus to be used when connected to an ultrasonic probe including a transducer array having a first number of ultrasonic transducers arranged in a two-dimensional matrix form, said first number of ultrasonic transducers including ultrasonic transducers in an original pattern that are previously determined to be working and ultrasonic transducers outside of said original pattern, connecting means for connecting a second number of ultrasonic transducers selected from among said first number of ultrasonic transducers to an ultrasonic transmitting and receiving apparatus main body, said second number being less than said first number and said second number of ultrasonic transducers including (i) ultrasonic transducers in said original pattern except for at least one defective ultrasonic transducer and (ii) at least one additional ultrasonic transducer outside of said original pattern in place of said at least one defective ultrasonic transducer, and identification information holding means for holding identification information, said apparatus comprising:

plural transmitting circuits for respectively generating plural driving signals to be supplied to said ultrasonic probe so as to transmit an ultrasonic beam;

plural receiving circuits for respectively processing plural detection signals outputted from said ultrasonic probe which has received an ultrasonic echo; and

control means for controlling amplitudes and/or waveforms of the plural driving signals in said plural transmitting circuits in correspondence with the ultrasonic probe identified on the basis of the identification information such that said at least one additional ultrasonic transducer works in place of said at least one defective ultrasonic transducer.

8. (previously presented): An ultrasonic transmitting and receiving apparatus to be used when connected to an ultrasonic probe including a transducer array having a first number of ultrasonic transducers arranged in a two-dimensional matrix form, said first number of ultrasonic transducers including ultrasonic transducers in an original pattern that are previously determined to be working and ultrasonic transducers outside of said original pattern, connecting means for connecting a second number of ultrasonic transducers selected from among said first number of ultrasonic transducers to an ultrasonic transmitting and receiving apparatus main body, said second number being less than said first number and said second number of ultrasonic transducers including (i) ultrasonic transducers in said original pattern except for at least one defective ultrasonic transducer and (ii) at least one additional ultrasonic transducer outside of said original pattern in place of said at least one defective ultrasonic transducer, and identification information holding means for holding identification information, said apparatus comprising:

plural transmitting circuits for respectively generating plural driving signals to be supplied to said ultrasonic probe so as to transmit an ultrasonic beam;

plural receiving circuits for respectively processing plural detection signals outputted from said ultrasonic probe which has received an ultrasonic echo; and

control means for controlling gains and/or bandwidths in said plural receiving circuits in correspondence with the ultrasonic probe identified on the basis of the identification information such that said at least one additional ultrasonic transducer works in place of said at least one defective ultrasonic transducer.